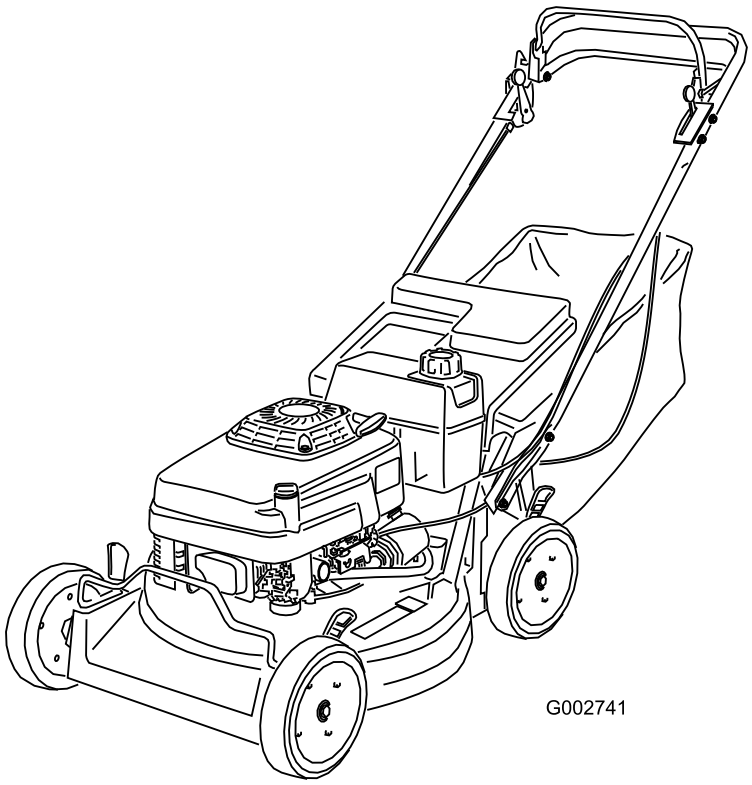
HAYTER

MAKERS OF THE FINEST MOWERS

Operator's Manual

21in Heavy-Duty Walk-Behind Rotary Mower



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Introduction

Read this information carefully to learn how to operate and maintain your product properly and to avoid injury and product damage. You are responsible for operating the product properly and safely.

Whenever you need service, genuine parts, or additional information, contact an Authorized Service Dealer and have the model and serial numbers of your product ready. Figure 1 identifies the location of the model and serial numbers on the product.

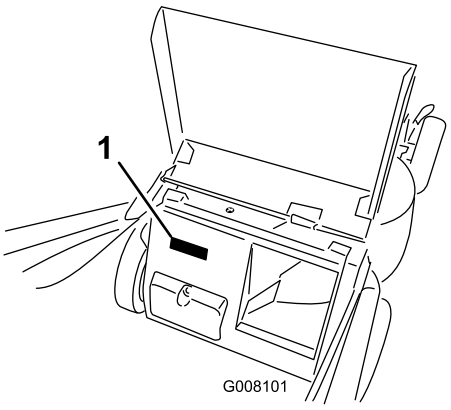

Figure 1

1. Model and serial number location

This manual identifies potential hazards and has safety messages identified by the safety alert symbol (Figure 2), which signals a hazard that may cause serious injury or death if you do not follow the recommended precautions.

Figure 2

1. Safety alert symbol

This manual uses 2 words to highlight information. **Important** calls attention to special mechanical information and **Note** emphasizes general information worthy of special attention.

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Safety

Improperly using or maintaining this mower can result in injury. To reduce the potential for injury, comply with these safety instructions.

This mower was designed and tested for reasonably safe service; however, failure to comply with the following instructions may result in personal injury.

To ensure maximum safety, best performance, and to gain knowledge of the product, it is essential that you and any other operator of the mower read and understand the contents of this manual before the engine is ever started. Pay particular attention to the safety alert symbol (Figure 2) which means Caution, Warning, or Danger—"personal safety instruction." Read and understand the instruction because it has to do with safety. Failure to comply with the instruction may result in personal injury.

General Lawn Mower Safety

The following instructions have been adapted from CEN standard EN 836:1997.

This cutting machine is capable of amputating hands and feet and throwing objects. Failure to observe the following safety instructions could result in serious injury or death.

Training

- Read the instructions carefully. Be familiar with the controls and the proper use of the equipment.
- Never allow children or people unfamiliar with these instructions to use the mower. Local regulations can restrict the age of the operator.
- Keep in mind that the operator or user is responsible for accidents or hazards occurring to other people or their property.
- Understand explanations for all pictograms used on the mower or in the instructions.

Petrol

WARNING-Petrol is highly flammable. Take the following precautions.

- Store fuel in containers specifically designed for this purpose.
- Refuel outdoors only and do not smoke while refueling.
- Add fuel before starting the engine. Never remove the cap of the fuel tank or ad petrol while the engine is running or when the engine is hot.
- If petrol is spilled, do not attempt to start the engine but move the mower away from the area of spillage and avoid creating any source of ignition until petrol vapors have dissipated.
- Replace all fuel tank and container caps securely.

Preparation

- While mowing, always wear substantial footwear and long trousers. Do not operate the equipment when barefoot or wearing open sandals.
- Thoroughly inspect the area where the equipment is to be used and remove all stones, sticks, wires, bones and other foreign objects.
- Before using, always visually inspect to see that guards, and safety devices, such as deflectors and/or grass bags, are in place and working correctly.
- Before using, always visually inspect to see that the blades, blade bolts and cutter assembly are not worn or damaged. Replace worn or damaged blades and bolts in sets to preserve balance.

Starting

- Disengage all blade and drive clutches and put into neutral before starting the engine.
- Do not tilt mower when starting the engine unless the mower has to be tilted for starting. In this case, do not tilt it more than absolutely necessary and lift only the part, which is away from the operator.
- Start the engine or switch on the motor carefully according to instructions and with feet well away from the blade(s) and not in front of the discharge chute.

Operation

- Never mow while people, especially children, or pets are nearby.
- Mow only in daylight or in good artificial light.
- Avoid operating the lawn mower in wet grass, where feasible.
- Stay alert for holes in the terrain and other hidden hazards.
- Do not put hands or feet near or under rotating parts. Keep clear of the discharge opening at all times.
- Never pick up or carry a lawn mower while the engine is running.
- Use extreme caution when reversing or pulling a pedestrian controlled lawn mower towards you.
- Walk, never run.

- Slopes:
  - Do not mow excessively steep slopes.
  - Exercise extreme caution when on slopes.
  - Mow across the face of slopes, never up and down and exercise extreme caution when changing direction on slopes.
  - Always be sure of your footing on slopes.
- Use low throttle settings when engaging the traction-clutch, especially in high gears. Reduce speed on slopes and in sharp turns to prevent overturning or loss of control.
- Stop the blade if the lawn mower has to be tilted for transportation when crossing surfaces other than grass and when transporting the lawn mower to and from the area to be mowed.
- Do not operate the engine in a confined space where dangerous carbon monoxide fumes can collect.
- Stop the engine
  - whenever you leave the lawn mower.
  - before refueling.
  - before removing the grass bag.
  - before making height adjustment unless adjustment can be made from the operator's position.
- Stop the engine and disconnect the spark-plug wire.
  - before clearing blockages or unclogging chute.
  - before checking, cleaning or working on the lawn mower.
  - after striking a foreign object, inspect the lawn mower for damage and make repairs before restarting and operating the lawn mower.
  - if lawn mower starts to vibrate abnormally (check immediately).
- Reduce the throttle setting during engine shut down, and close the fuel valve at the conclusion of mowing.
- Watch out for traffic when crossing or near roadways.

Maintenance and Storage

- Keep all nuts, bolts and screws tight to be sure the equipment is in safe working condition.
- Do not use pressure cleaning equipment on machine.
- Never store the equipment with petrol in the tank and inside a building where fumes can reach an open flame or spark.
- Allow the engine to cool before storing in any enclosure.
- To reduce the fire hazard, keep the engine, silencer, battery compartment and petrol storage are free of grass, leaves, or excessive grease.
- Check grass bag components and the discharge guard frequently and replace with manufacturer's recommended parts, when necessary.
- Replace worn or damaged parts for safety.
- Replace faulty silencers.
- If the fuel tank has to be drained, do this out-doors.
- Do not change the engine governor settings or overspeed the engine. Operating an engine at excessive speed can increase the hazard of personal injury.
- Be careful during adjustment of the lawn mower to prevent entrapment of the fingers between moving blades and fixed parts of the lawn mower.
- **To ensure the best performance and safety, purchase only genuine Hayter replacement parts and accessories. Do not use *will fit* parts and accessories; they may cause a safety hazard.**

Sound Pressure

This unit has a maximum sound pressure level at the operator's ear of 88 dBA, based on measurements of identical machines per EN 836 and ISO 11201.

Sound Power

This unit has a guaranteed sound power level of 98 dBA, based on measurements of identical machines per ISO 11094.

Vibration, Hand/arm

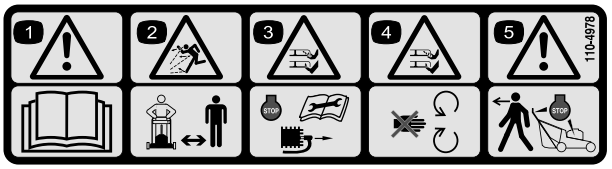
This unit does not exceed a hand/arm vibration level of 5.5 m/s^2, based on measurements of identical machines per EN 836 and EN 1033.

Safety and Instructional Decals

Safety decals and instructions are easily visible to the operator and are located near any area of potential danger. Replace any decal that is damaged or lost.

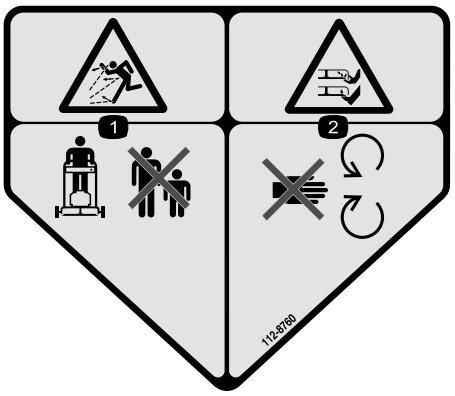
110-2115

1. Read the *Operator's Manual.*
2. To engage the blade, first move the safety latch forward and then pull the upper bail to the rear.
3. To engage the traction control, lift the lower bail upward.
4. To disengage the blade, release the upper bail.



110-4978

1. Warning—read the *Operator's Manual.*
2. Thrown object hazard—keep bystanders a safe distance from the machine.
3. Cutting, dismemberment hazard of hand or foot—stop the engine and remove the spark plug wire before performing any maintenance on the machine.
4. Cutting, dismemberment hazard of hand or foot—stay away from moving parts.
5. Warning—stop the engine before leaving the machine.

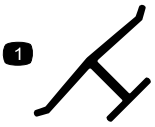


112-8760

1. Thrown object hazard—keep bystanders a safe distance from the machine.
2. Cutting/dismemberment of hand or foot—stay away from moving parts.

110-4977

1. Thrown object hazard—do not operate the mower with out a bag in place.



Manufacturer's Mark

1. Indicates the blade is identified as a part from the original machine manufacturer.

98-4387

1. Warning—wear hearing protection.

Setup

Loose Parts

Use the chart below to verify that all parts have been shipped.

Procedure	Description	Qty.	Use
1	Handle Bolt (5/16 x 7/8 inch) Bolt (5/16 x 1-1/2 inches) Washer Locknut (5/16 inch) Cable tie	1 2 2 4 4 3	Install the handle.
2	Self-tapping screw Fuel tank	2 1	Install the fuel tank and fuel line.
3	No parts required	–	Fill the crankcase with oil.

Note: Determine the left and right sides of the machine from the normal operating position.

1

Installing the Handle

Parts needed for this procedure:

1	Handle
2	Bolt (5/16 x 7/8 inch)
2	Bolt (5/16 x 1-1/2 inches)
4	Washer
4	Locknut (5/16 inch)
3	Cable tie

Procedure

1. Mount the handle to the mower housing with 2 bolts (5/16 x 7/8 inch), 2 bolts (5/16 x 1-1/2 inches), 4 washers, and 4 locknuts (Figure 3).

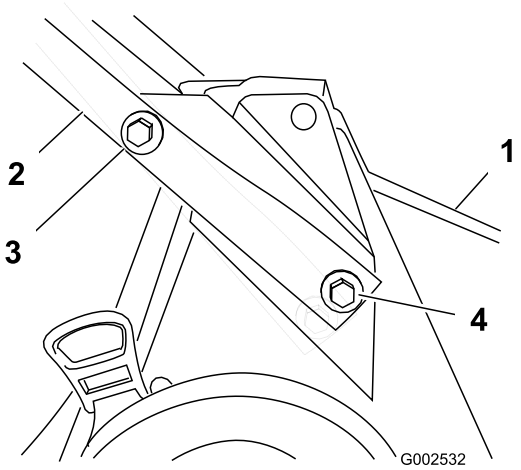


Figure 3

1. Housing
2. Handle
3. Bolt (5/16 x 1-1/2 inches), washer, and locknut
4. Bolt (5/16 x 7/8 inch), washer, and locknut

Note: Install the washers with the cup side facing the handle.

Note: You can adjust the handle height for more comfortable operation. Securing the lower handle end in the upper hole lowers the handle; securing the lower handle end in the lower hole raises the handle.

2. Use the cable ties provided to secure the control cables to the handle.

2

Installing the Fuel Tank and the Fuel Line

Parts needed for this procedure:

2	Self-tapping screw
1	Fuel tank

Procedure

1. Slide the end of the fuel line onto the elbow fitting (Figure 4).

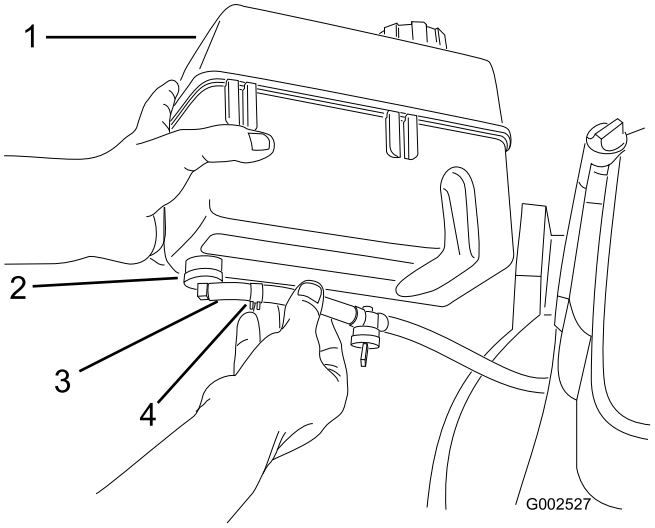


Figure 4

1. Fuel tank
2. Elbow fitting
3. Fuel line
4. Fuel line clamp

2. Secure the fuel line in place with the fuel line clamp (Figure 4).
3. Slide the plastic clips on the front of the fuel tank onto the fuel tank mount (Figure 5).

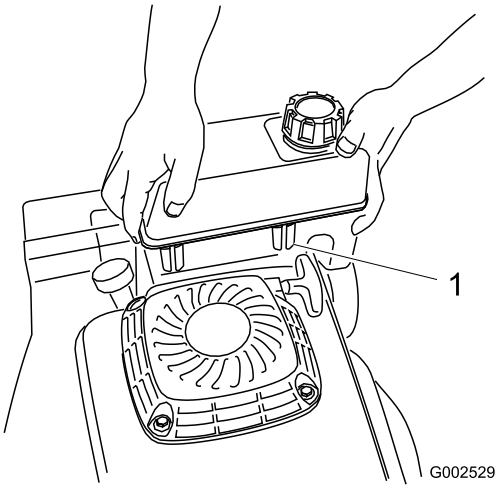


Figure 5

1. Plastic clip (2)

4. Secure the bottom of the fuel tank to the fuel tank bracket by installing the self-tapping screws from the bottom. **Torque the screws to 40 to 50 in-lb (4.5 to 5.6 N-m). Do not overtighten the screws.**

3

Filling the Crankcase with Oil

No Parts Required

Procedure

The engine crankcase is shipped without oil. You must fill it with approximately 30 oz. (0.88 L) of oil before starting the engine. Refer to Checking the Engine Oil Level in Operation , page 9 for oil specifications and instructions.

Product Overview

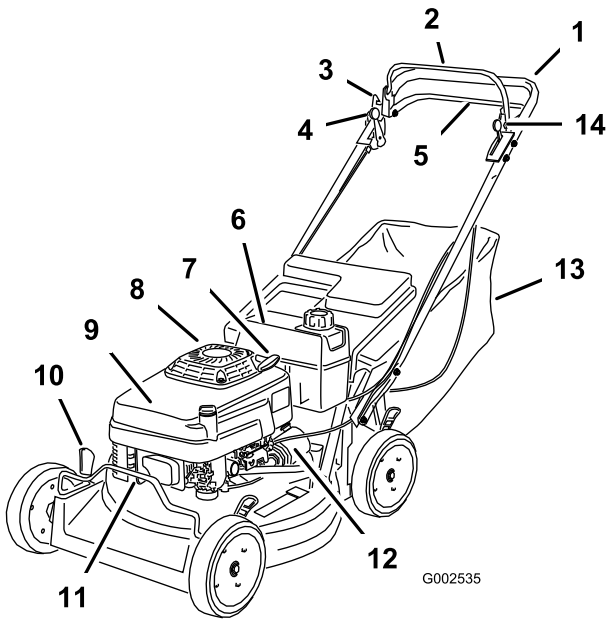


Figure 6

1. Handle
2. Blade control bar
3. Control bar lock
4. Ground speed control lever
5. Traction control bar
6. Fuel tank
7. Starter handle
8. Oil fill/dipstick (not shown)
9. Air filter
10. Cutting height lever
11. Spark plug
12. Oil filter
13. Grass bag
14. Throttle control lever

Controls

The blade control bar, control bar lock, ground speed control lever, throttle control lever, and traction control bar are on the upper handle as shown in (Figure 7).

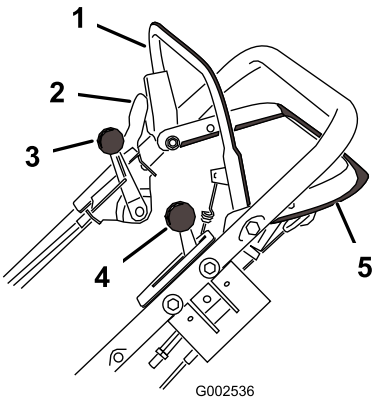


Figure 7

1. Blade control bar
2. Control bar lock
3. Ground speed control lever
4. Throttle control lever
5. Traction control bar

The throttle settings are shown in Figure 8.

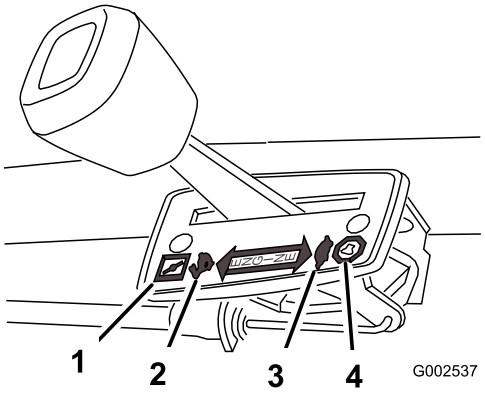


Figure 8

1. Choke
2. Fast
3. Slow
4. Stop

Operation

Note: Determine the left and right sides of the machine from the normal operating position.

Each time before you mow, make sure that the self-propel drive and the blade control bar operate properly. When you release the blade control bar, the blade should stop. If it does not, contact an Authorized Service Dealer.

This machine produces sound levels in excess of 85dBA at the operator's ear and can cause hearing loss through extended periods of exposure.

Wear hearing protection when operating this machine.

Figure 9

1. Warning—wear hearing protection.

Checking the Engine Oil Level

Service Interval: Before each use or daily

Initially, fill the crankcase with 30 ounces (0.88 liters) of oil. Use only high-quality SAE 30 or SAE 10W30 weight detergent oil that has the American Petroleum Institute (API) service classification SF, SG, SH, or SJ.

Before each use, ensure that the oil level is between the Add and Full marks on the dipstick (Figure 10).

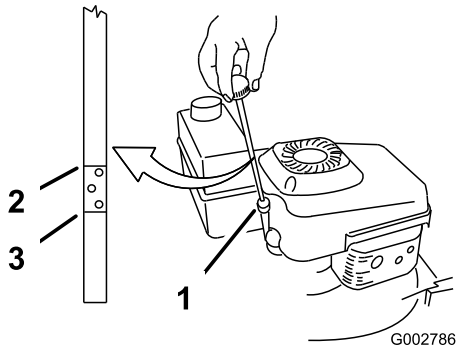


Figure 10

1. Dipstick
2. Full
3. Add

Note: When the crankcase is empty, pour about 3/4 of the crankcase capacity of oil in the crankcase, then follow the procedure in this section.

1. Move the lawn mower to a level surface.
2. Clean around the dipstick (Figure 10).
3. Remove the dipstick by rotating the cap counterclockwise and pulling it out.
4. Wipe the dipstick clean with a clean cloth.
5. Insert the dipstick into the filler neck, **but do not screw it in**.
6. Remove the dipstick and read the oil level on the dipstick (Figure 10).
7. If the oil level reading is below the Add mark on the dipstick, slowly pour only enough oil into the filler hole to raise the oil level to the Full mark on the dipstick.

   Important: Do not overfill the crankcase with oil and run the engine; engine damage will result. Drain the excess oil until the oil level on the dipstick reads Full.
8. Insert the dipstick into the filler neck and rotate the cap clockwise until it is tight.

Filling the Fuel Tank

For best results, use clean, fresh, lead-free petrol with an octane rating of 87 or higher. To ensure freshness, purchase only the quantity of petrol that you expect to use in 30 days. Using unleaded petrol results in fewer combustion deposits and longer engine life. You may use leaded petrol if unleaded petrol is not available.

Important: Do not add oil to the petrol.

Important: Do not use petrol that has been stored since the last mowing season or longer.

When fueling, under certain circumstances, a static charge can develop, igniting the petrol. A fire or explosion from petrol can burn you and others and damage property.

- **Always place petrol containers on the ground and away from your vehicle before filling.**
- **Do not fill petrol containers inside a vehicle or on a truck or trailer bed because interior carpets or plastic truck bed liners may insulate the container and slow the loss of any static charge.**
- **When practical, remove petrol-powered equipment from the truck or trailer and refuel the equipment with its wheels on the round.**
- **If this is not possible, then refuel such equipment on a truck or trailer from a portable container, not from a petrol dispenser nozzle.**
- **If you must use a petrol dispenser nozzle, keep the nozzle in contact with the rim of the fuel tank or container opening at all times until fueling is complete.**

Use a fuel stabilizer/conditioner regularly during operation and storage. A stabilizer/conditioner cleans the engine during operation and prevents gum-like varnish deposits from forming in the engine during periods of storage.

Important: Do not use fuel additives other than a fuel stabilizer/conditioner. Do not use fuel stabilizers with an alcohol base such as ethanol, methanol, or isopropanol.

In certain conditions, petrol is extremely flammable and highly explosive. A fire or explosion from petrol can burn you and others and can damage property.

- **Fill the fuel tank outdoors, in an open area, and when the engine is cold. Wipe up any petrol that spills.**
- **Do not fill the fuel tank completely full. Add petrol to the fuel tank until the level is 1/4 to 1/2 in. (6 to 13 mm) below the bottom of the filler neck. This empty space in the tank allows the petrol to expand.**
- **Never smoke when handling petrol, and stay away from an open flame or where a spark may ignite the petrol fumes.**
- **Store petrol in an approved fuel container and keep it out of the reach of children.**
- **Never buy more than a 30-day supply of petrol.**

1. Clean around the fuel tank cap (Figure 11).

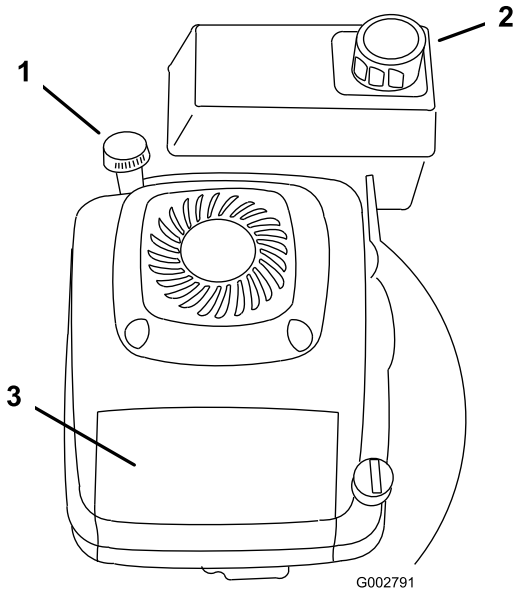


Figure 11

1. Oil fill/dipstick
2. Fuel tank cap
3. Air cleaner

2. Remove the cap from the tank.
3. Fill the fuel tank with unleaded petrol to within 1/4 to 1/2 inch (6 to 13 mm) from the top of the tank. **Do not fill into the filler neck.**

Important: Do not fill the tank more than 1/4 inch (6 mm) from the top of the tank because the petrol must have room to expand.

4. Install the fuel tank cap and wipe up any spilled petrol.

Starting the Engine

1. Connect the wire to the spark plug (Figure 12).

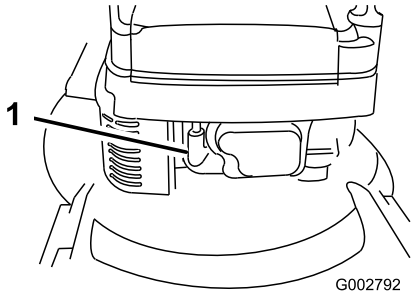


Figure 12

1. Spark-plug wire

2. Open the fuel valve (Figure 13)

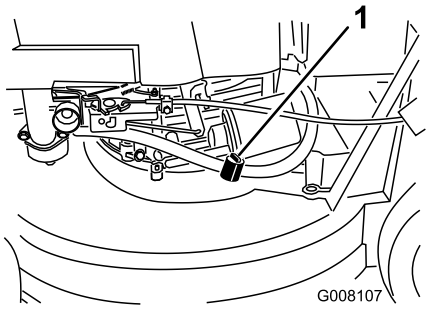


Figure 13

1. Fuel valve

3. Move the throttle control lever to the Choke position (Figure 8).
4. Move the ground speed control lever to the Neutral (N) position.
5. Pull the starter handle lightly until you feel resistance, then pull it sharply.
6. Regulate the throttle and the ground speed control as desired when the engine starts.

   Note: If the engine fails to start after 3 pulls, repeat steps 3 through 6.

Stopping the Engine

1. Move the throttle control to the Stop position.
2. Disconnect the wire from the spark plug if you do not use the lawn mower or leave it unattended.

Operating the Blade

Engaging the Blade

When you start your engine, the blade does not turn. You must engage the blade to mow.

1. Push the control bar lock forward (Figure 14).

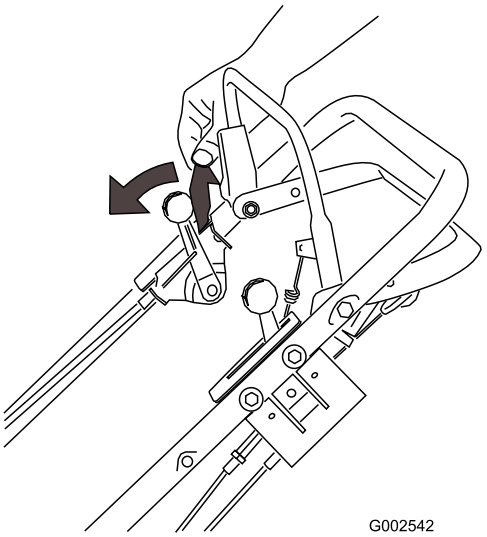


Figure 14

2. Pull the blade control bar to the handle and hold it (Figure 15).

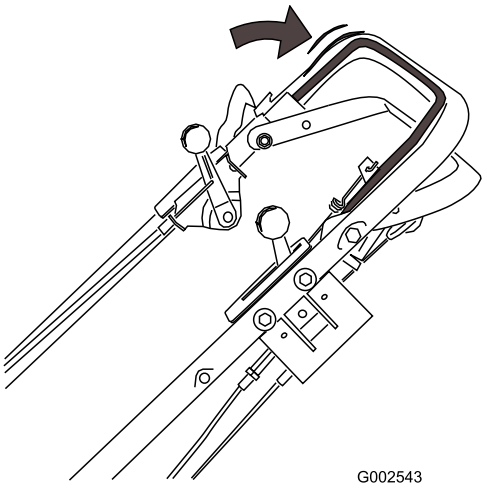


Figure 15

Disengaging the Blade

Release the blade control bar.

Important: When you release the blade control bar, the blade should stop within 3 seconds. If it does not stop properly, stop using your mower immediately and contact an Authorized Service Dealer.

Operating the Traction Drive

Engaging the Traction Drive

1. Release the traction control bar (Figure 16).

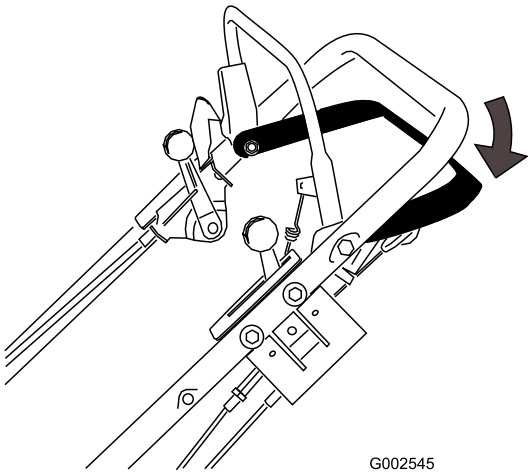


Figure 16

2. Move the ground speed control lever to the desired gear position.
3. Squeeze the traction control bar against the handle (Figure 17).

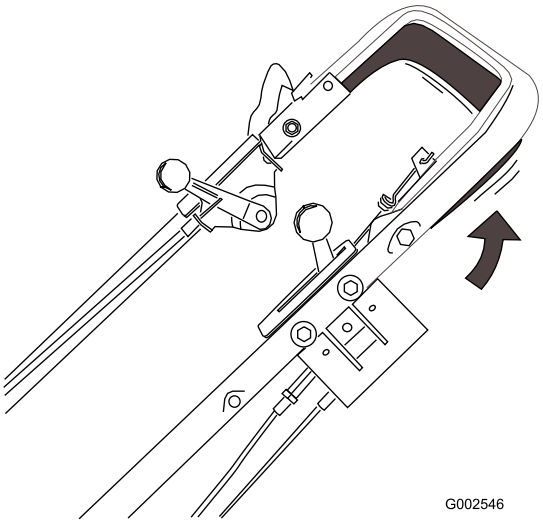


Figure 17

Disengaging the Traction Drive

Release the traction control bar.

Checking the Blade Brake Clutch

Check the blade control bar before each use to ensure that the blade brake clutch system is operating properly.

You can use the grass bag to perform an additional test to check the blade brake clutch mechanism:

1. Install the empty grass bag on the discharge tunnel.
2. Start the engine.
3. Pull the blade control bar to the normal blade engaged position. The bag should begin to inflate, indicating that the blade is engaged and rotating.
4. Release the blade control bail. If the bag does not immediately deflate, it indicates that the blade is still rotating. The blade brake clutch mechanism may be deteriorating, and, if ignored, could result in an unsafe operating condition. Have the lawn mower inspected and serviced by an Authorized Service Dealer.

If the blade brake clutch system is inoperative, the blade will continue to rotate when you release the blade control bail. Contact with blade could occur, causing serious injury.

- **Check the blade brake clutch operation before each use.**
- **Never use a mower equipped with a blade brake clutch that has an inoperative safety system.**
- **Take your mower to an Authorized Service Dealer for repair if the safety system fails to operate properly.**

Adjusting the Cutting Height

Each wheel is adjusted individually with a wheel height adjustment lever. Cutting heights are 1-1/4 inches (32 mm), 1-3/4 inches (44 mm), 2-1/4 inches (57 mm), 2-3/4 inches (70 mm), 3-1/4 inches (83 mm), and 3-3/4 inches (95 mm).

Adjusting the cutting height levers could bring your hands into contact with a moving blade and result in serious injury.

- **Stop the engine and wait for all movement to stop before adjusting the cutting height.**
- **Do not put your fingers under the housing when adjusting the cutting height.**

1. Pull the wheel height adjustment lever toward the wheel (Figure 18) and move it to the desired setting.

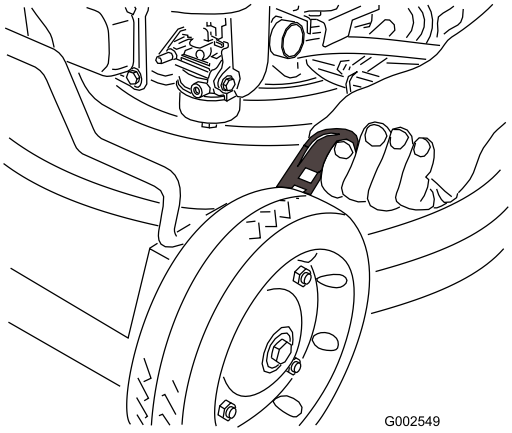


Figure 18

1. Wheel height adjustment lever

2. Release the wheel height adjustment lever and seat it securely in the notch.
3. Adjust all the wheels to the same cutting height setting.

Using the Grass Bag

Installing the Grass Bag

1. Wait for all moving parts to stop.
2. Raise and hold up the rear door (Figure 19).

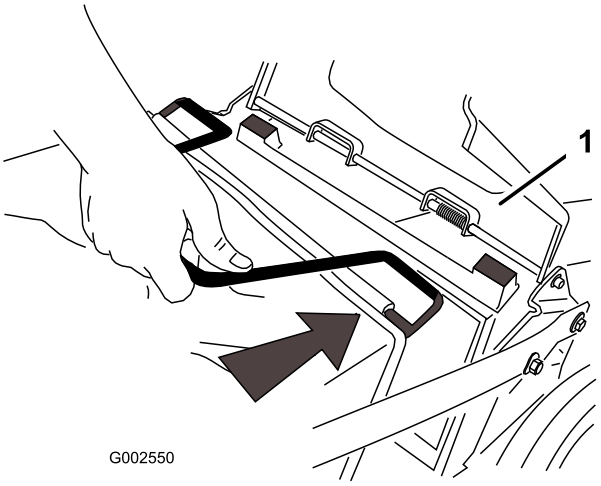


Figure 19

1. Rear door

3. Install the bag on the bag mounting posts (Figure 20).

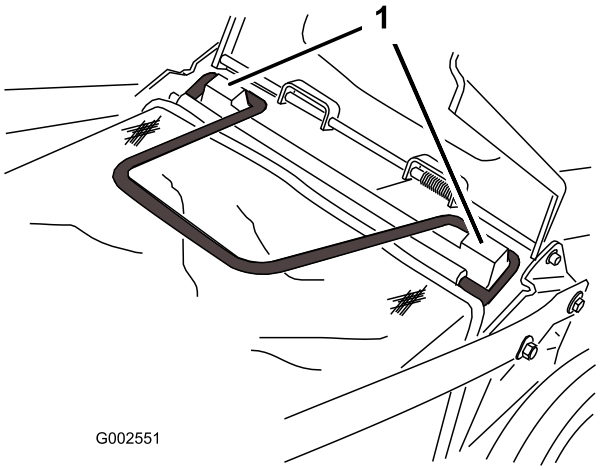


Figure 20

1. Bag mounting posts

4. Lower the rear door.

Removing the Grass Bag

To remove the bag, reverse the steps above.

The mower can throw grass clippings and other objects through an open discharge tunnel. Objects thrown with enough force could cause serious personal injury or death to the operator or bystander.

Do not operate the mower without a grass bag installed.

Mowing with the Grass Bag

A worn grass bag could allow small stones and other similar debris to be thrown in the operator's or bystander's direction and result in serious personal injury or death to the operator or bystanders.

Check the grass bag frequently. If it is damaged, install a new Hayter replacement bag.

Operating Tips

General Tips

- Maintain a sharp blade throughout the cutting season. Periodically file down nicks on the blade.
- Replace the blade when necessary with an original Hayter replacement blade.
- Mow only dry grass or leaves. Wet grass and leaves can build up and clog in the chute or cause the engine to stall.

Wet grass or leaves can cause serious injury if you slip and contact the blade.

Mow only in dry conditions.

- Clean under the mower housing after each mowing. See Cleaning under the Mower Housing.
- Keep the engine in good running condition.
- Set the engine speed to the fastest position for the best cutting results.

Operating a mower with its engine running at a speed greater than the factory setting can cause the mower to throw a part of the blade or engine into the operator's or bystander's area and result in serious personal injury or death.

- **Do not change the engine speed setting.**
- **If you suspect the engine speed is faster than normal, contact an Authorized Service Dealer.**

- Clean the air filter frequently. Mulching stirs up more clippings and dust which clogs the air filter and reduces engine performance.

Cutting Grass

- Grass grows at different rates at different times of the year. In the summer heat, it is best to cut grass at the 2-1/4 inch (57 mm), 2-3/4 inch (70 mm), or 3-1/4 inch (83 mm) cutting height settings. Cut only about a third of the grass blade at a time. Do not cut below the 2-1/4 inch (57 mm) setting unless the grass is sparse or it is late fall when grass growth begins to slow down.
- When cutting grass over 6 inches (15 cm) tall, first mow at the highest cutting height setting and walk slower; then mow again at a lower setting for the best lawn appearance. If the grass is too long and the leaves clump on top of the lawn, the mower may clog and cause the engine to stall.
- Alternate the mowing direction. This helps disperse the clippings over the lawn for even fertilization.

If the finished lawn appearance is unsatisfactory, try one or more of the following:

- Sharpen the blade.
- Walk at a slower pace while mowing.
- Raise the cutting height on your mower.
- Cut the grass more frequently.
- Overlap cutting swaths instead of cutting a full swath with each pass.
- Set the cutting height on the front wheels one notch lower than the rear wheels. For example, set the front wheels at 2-1/4 inches (57 mm) and the rear wheels at 2-3/4 inches (70 mm).

Cutting Leaves

- After cutting the lawn, ensure that half of the lawn shows through the cut leaf cover. You may need to make more than one pass over the leaves.

- For light leaf coverage, set all the wheels at the same cutting height setting.
- If there are more than 5 inches (12.7 cm) of leaves on the lawn, set the front cutting height 1 or 2 notches higher than the rear cutting height. This makes it easier to feed the leaves under the mower housing.
- Slow down your mowing speed if the mower does not cut the leaves finely enough.
- If you mow over oak leaves, you can add lime to the grass in the spring to reduce the acidity of the oak leaves.

Maintenance

Note: Determine the left and right sides of the machine from the normal operating position.

Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure
After the first 8 hours	• Change the engine oil.
Before each use or daily	• Check the engine oil level. • Inspect the mower blades for wear or damage. • Clean under the mower housing.
Every 25 hours	• Clean the foam pre-cleaner (more frequently in dusty conditions).
Every 50 hours	• Change the engine oil (more often in dusty conditions). • Clean the blade brake clutch shield.
Every 100 hours	• Lubricate the gear case. • Change the oil filter. • Check the spark plug.
Every 300 hours	• Replace the paper air filter (more frequently in dusty conditions).
Yearly	• Clean the fuel filter.

Important: Refer to your *Engine Operator's Manual* for additional maintenance procedures.

If you leave the wire on the spark plug, someone could accidently start the engine and seriously injure you or other bystanders.

Disconnect the wire from the spark plug before you do any maintenance. Set the wire aside so that it does not accidently contact the spark plug.

Lubrication

Lubricating the Pivot Arms

After every 50 operating hours or when the season ends, lubricate the pivot arms.

1. Move the rear wheel cutting height levers to the center setting.
2. Wipe the grease fittings with a clean rag (Figure 21).

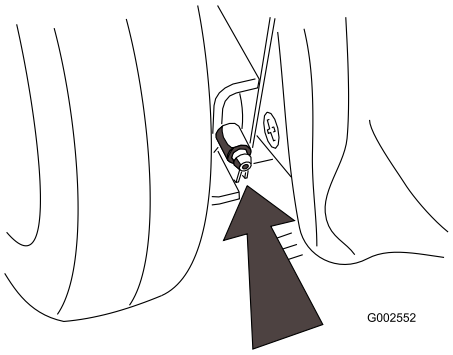


Figure 21

3. Install a grease gun onto the fitting and gently apply 2 or 3 pumps of #2 multi-purpose lithium base grease.

   Important: Excessive grease pressure may damage the seals.

Lubricating the Gear Case

Service Interval: Every 100 hours

After every 100 operating hours, grease the gear case.

1. Remove the grass bag.
2. Install a grease gun onto the fitting through the belt cover opening (Figure 22).

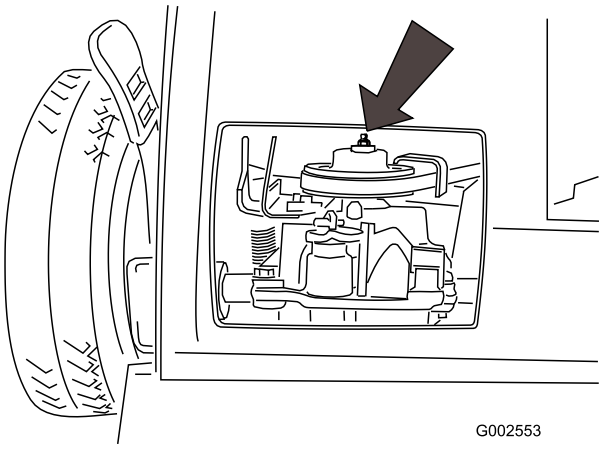


Figure 22

3. Gently apply one to 2 pumps of #2 multi-purpose lithium-base grease.
4. Install the grass bag.

Engine Maintenance

Servicing the Air Filter

Service Interval: Every 25 hours—Clean the foam pre-cleaner (more frequently in dusty conditions).

Every 300 hours—Replace the paper air filter (more frequently in dusty conditions).

Important: Do not operate the engine without the air filter assembly; extreme engine damage will occur.

1. Stop the engine and wait for all moving parts to stop.
2. Disconnect the wire from the spark plug (Figure 12).
3. Remove the screw that secures the air cleaner cover (Figure 23).

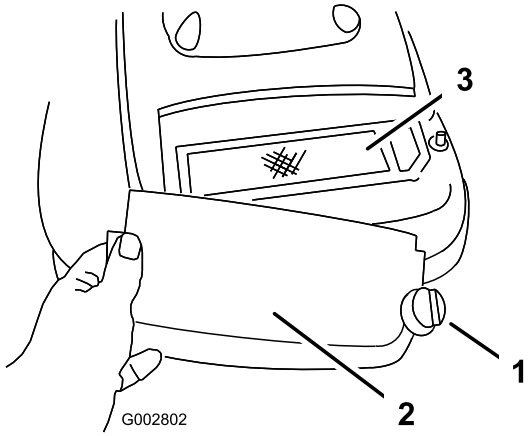


Figure 23

1. Screw
2. Cover
3. Paper air filter

4. Remove the cover and clean it thoroughly (Figure 23).
5. Remove the paper air filter and discard it (Figure 24).

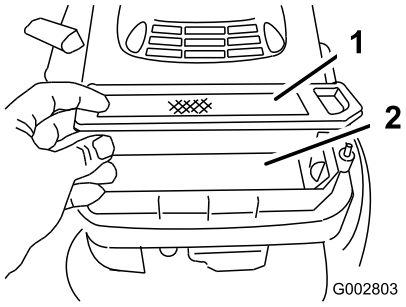


Figure 24

1. Paper air filter
2. Foam pre-cleaner

Important: Do not try to clean a paper filter.

6. Remove the foam pre-cleaner and wash it with a mild detergent and water, then blot it dry.
7. Saturate the pre-cleaner with oil, then squeeze it (do not twist) to remove the excess oil.
8. Install the foam pre-cleaner.
9. Install the new paper air filter.
10. Install the cover and secure it with the screw.

Changing the Engine Oil

Service Interval: After the first 8 hours

Every 50 hours

Oil Capacity	
With oil filter	29 ounces (0.85 liters)
Without oil filter	22 ounces (0.65 liters)

Note: The oil capacities in the table above account for the empty crankcase to contain a small amount of residual oil.

1. Run the engine to warm the engine oil.

   Note: Warm oil flows better and carries more contaminants.

Oil may be hot after engine has been run, and contact with hot oil can cause severe personal injury.

Avoid contacting the hot engine oil when you drain it.

2. Stop the engine and wait for all moving parts to stop.
3. Disconnect the wire from the spark plug (Figure 12).
4. Place a suitable drain pan under the right side of the mower.
5. Remove the dipstick by rotating the cap counterclockwise and pulling it out.
6. Tip the mower onto its **right** side to drain the oil into the drain pan.

   Note: You can also remove the oil from the crankcase using an oil extractor.
7. Return the mower to its operating position.
8. Insert the dipstick into the filler neck and rotate the cap clockwise until it is tight.
9. Recycle the used oil according to local codes.
10. Fill the crankcase to the Full line on the dipstick with fresh oil. Refer to the Filling the Crankcase with Oil.
11. Wipe up any spilled oil.

Changing the Oil Filter

Service Interval: Every 100 hours

Replace the oil filter (Figure 25) after every 100 operating hours or yearly, whichever comes first.

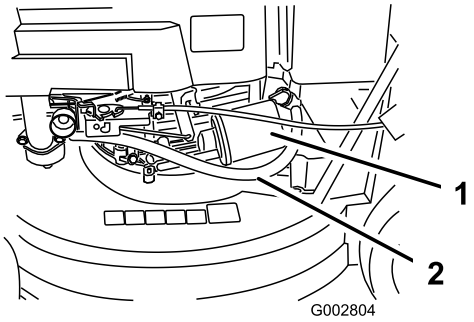


Figure 25

1. Oil filter
2. Fuel line

1. Run the engine to warm the oil.

Oil may be hot after the engine has been run, and contact with hot oil can cause severe personal injury.

Avoid contacting the hot engine oil when you drain it.

2. Stop the engine and wait for all moving parts to stop.
3. Disconnect the wire from the spark plug.
4. Drain the engine oil; refer to Changing the Engine Oil.
5. Place a rag under the oil filter to catch any oil that may leak out as you remove the filter.
6. Remove the oil filter.
7. Use your finger to coat the gasket on the new filter with oil (Figure 26).

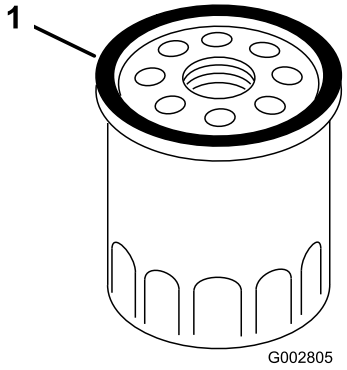


Figure 26

1. Gasket

8. Install the new filter and hand tighten it 2/3 turn only.
9. Fill the crankcase to the Full line on the dipstick with fresh oil Refer to Filling the Crankcase with Oil.
10. Connect the wire to the spark plug.
11. Run the engine for about 3 minutes.
12. Stop the engine, wait for all moving parts to stop, and check for oil leakage around the filter.
13. Add oil to compensate for the oil in the oil filter. Refer to Checking the Engine Oil Level.
14. Recycle the used oil filter according to local codes.

Servicing the Spark Plug

Service Interval: Every 100 hours

Check the spark plug after every 100 operating hours. Use an **NGK BPR5ES** spark plug or equivalent.

1. Stop the engine and wait for all moving parts to stop.
2. Disconnect the wire from the spark plug (Figure 12).
3. Clean around the spark plug.
4. Remove the spark plug from the cylinder head.

   Important: Replace a cracked, fouled, or dirty spark plug. Do not clean the electrodes because grit entering the cylinder can damage the engine.

5. Set the gap on the plug to 0.030 in. (0.76 mm) (Figure 27).

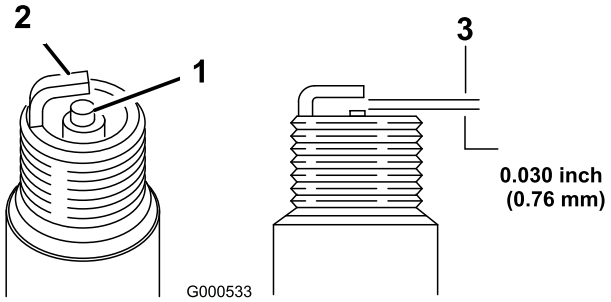


Figure 27

1. Center electrode insulator
2. Side electrode
3. Air gap (not to scale)

6. Install the spark plug and the gasket seal.
7. Torque the plug to 17 ft-lb (23 N·m).
8. Connect the wire to the spark plug.

Fuel System Maintenance

Emptying the Fuel Tank and Cleaning the Fuel Filter

Service Interval: Yearly

The fuel filter (screen) element is located inside the fuel tank. Clean the fuel filter element yearly.

1. Stop the engine and wait for it to cool down.

   Note: Drain petrol from a cold engine only.

2. Disconnect the wire from the spark plug.
3. Disconnect the fuel line by loosening the tube clamp at the carburetor.
4. Open the fuel valve.
5. Drain the petrol completely from the tank and fuel line into an approved fuel container.
6. Remove the fuel tank from the mower.
7. Pour a small amount of fuel in the fuel tank, move the fuel around in the tank, and pour it out into an approved fuel container.
8. Install the fuel tank and fuel line; refer to Installing the Fuel Tank and the Fuel Line.

Drive System Maintenance

Adjusting the Self-propel Drive

If the mower does not self-propel or has a tendency to creep forward when the control bar is more than 1-1/2 inches (3.8 cm) from the handle, adjust the self-propel drive.

1. Loosen the nut that secures the adjuster (Figure 28).

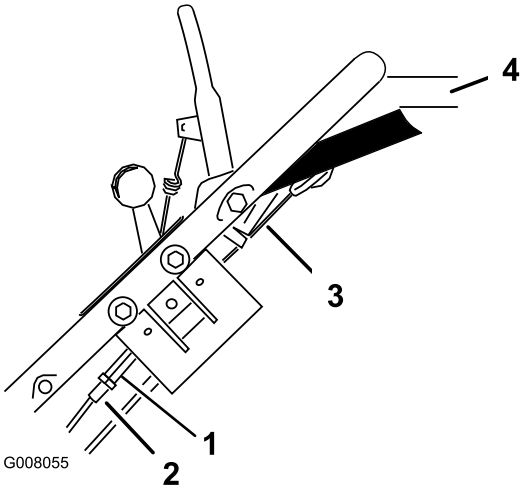


Figure 28

1. Adjuster
2. Nut
3. Cable
4. 1-1/2 inches (3.8 cm)

2. Turn the adjuster until you remove the slack in the exposed cable (Figure 28).
3. Tighten the nut.

   Note: To check the adjustment, slowly pull the mower backward while you gradually move the control bar toward the handle. The adjustment is correct when the rear wheels stop turning and the top of the control bar is about 1-1/2 inches (3.8 cm) from the bottom of the handle.

   Note: If the adjuster is fully extended and the mower does not self-propel when the blade control bar is 1-1/2 inches (3.8 cm) from the handle, you will need to adjust the lower anchor bracket. Refer to steps 4 to 9.

4. Move the adjuster to obtain the maximum slack in the cable.
5. Remove the fuel tank.

   Note: You do not need to disconnect the fuel line from the fuel tank.

6. Remove the upper and lower belt covers (Figure 29).

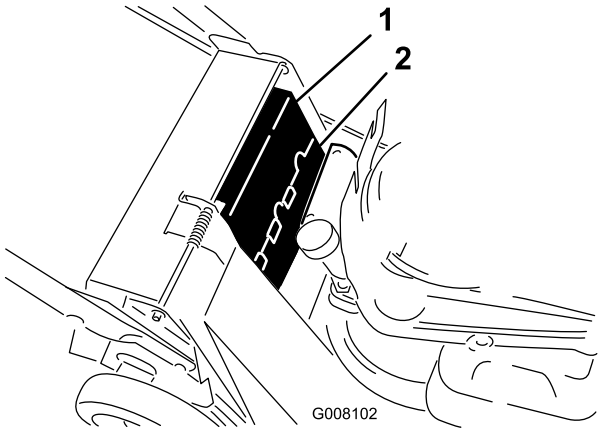


Figure 29

1. Upper belt cover
2. Lower belt cover

7. Remove the screws from the lower anchor bracket (Figure 30).

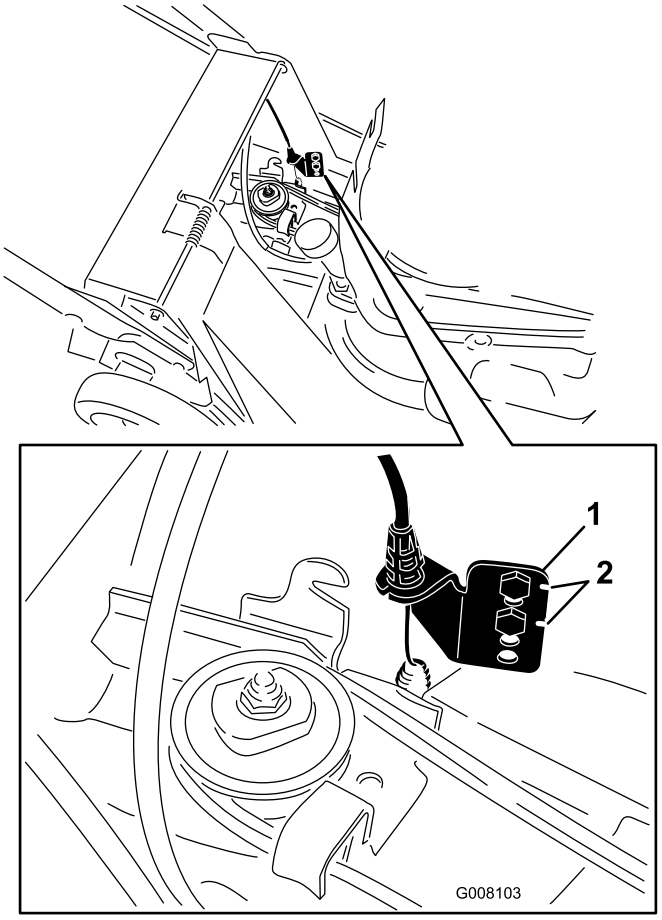


Figure 30

1. Lower anchor bracket
2. Notches

8. Move the lower anchor bracket up one hole (Figure 30).
9. Repeat steps 1 through 3 to adjust the control bar.

   Note: When you install a new belt, move the lower anchor bracket to its original factory position, which is indicated by the notches next to the holes in the bracket (Figure 30).

Servicing the Wheels

Removing the Wheels

1. Stop the engine and wait for all moving parts to stop.
2. Disconnect the wire from the spark plug (Figure 12).
3. Remove the bolt, the wheel spacer, and the locknut mounting the wheel to the pivot arm (Figure 31).
4. Separate the wheel halves from the tyre by removing 4 cap screws and 4 locknuts (Figure 31).

   Note: If you remove the bearings from the bearing/hub assembly, remove them by pressing on the bearing spacer (Figure 31).

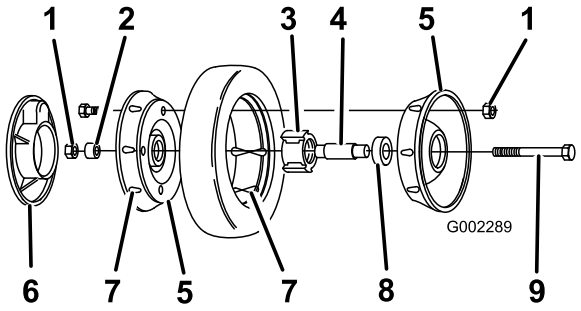


Figure 31

1. Locknuts
2. Wheel spacer
3. Bearing/hub assembly
4. Bearing spacer
5. Wheel half
6. Plastic cover (rear wheels only)
7. Lug
8. Bearing (2)
9. Bolt

Assembling the Wheels

1. Position the tyre onto one wheel half, aligning the lugs on each (Figure 31).
2. Place the bearing/hub assembly into the center hole of the wheel half. Ensure that the legs of the hub are positioned over the flange of the hole (Figure 31).
3. Place the other wheel half onto the bearing/hub assembly, aligning the wheel and the tyre lugs and the mounting holes (Figure 31).
4. Using 2 fully threaded screws or bolts (1/4-20 x 1.50 inch) and non-locking nuts, loosely secure the wheel halves together. Mount the screws or bolts in the opposing holes (Figure 31).
5. Check the alignment of all parts and tighten the screws, alternating from side to side for a uniform fit, until the wheel halves are drawn together (Figure 31).

6. Install the 2 bolts and 2 locknuts previously removed in the remaining holes in the wheel halves and tighten. Remove the 2 long screws or bolts and replace them with 2 bolts and 2 locknuts (Figure 31).
7. Install the wheel to the pivot arm with the bolts, a spacer, and a locknut. Ensure that the spacer is positioned between the wheel hub and the pivot arm (Figure 31).

Controls System Maintenance

Adjusting the Blade Brake Cable

Whenever you install a new blade brake cable assembly or replace the belt, adjust the blade brake cable.

1. Stop the engine and wait for all moving parts to stop.
2. Disconnect the wire from the spark plug (Figure 12).
3. Remove the fuel tank from the tank bracket.

   Note: You do not need to disconnect the fuel line from the fuel tank.
4. Reset the cable adjuster on the handle so that 1/4 inch (6 mm) of the threads show, then tighten the nut (Figure 32).

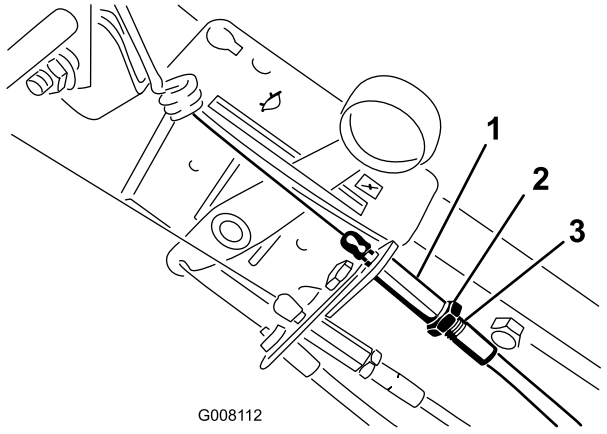


Figure 32

1. Adjuster
2. Nut
3. 1/4 inch (6 mm) of threads

5. Loosen the cable clamp screw until the brake cable conduit slides (Figure 33).

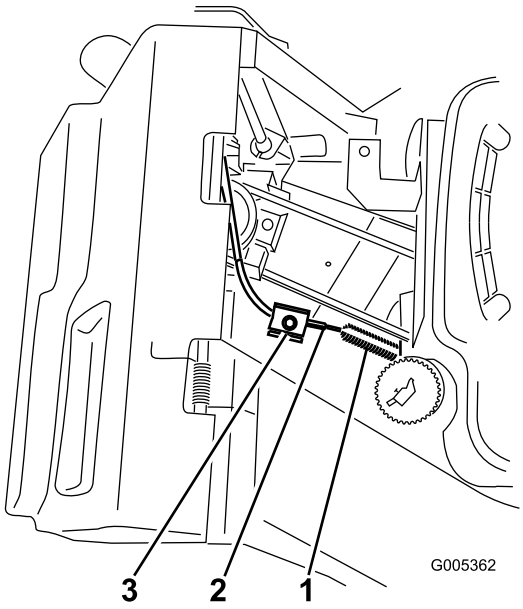


Figure 33

1. Spring
2. Brake cable conduit
3. Cable clamp screw

6. Hold the blade control bar so that the **outside** of the bar is 5-1/2 inches (14 cm) from the **outside** of the handle, and pull the cable to the remove the slack, but do not put tension on the spring (Figure 34).

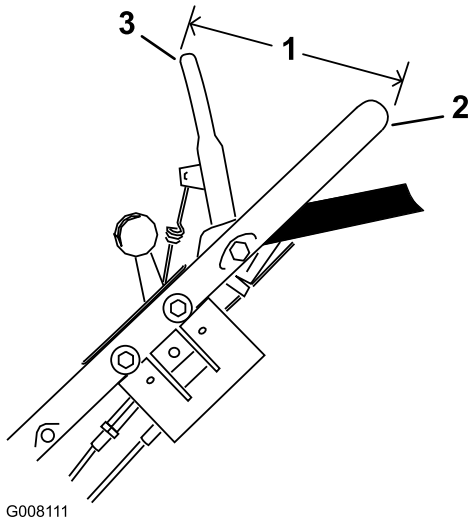


Figure 34

1. 5-1/2 inches (14 cm)
2. Handle
3. Blade control bar

7. Torque the cable clamp screw to 100 to 120 in-lb (11 to 14 N-m) to lock the adjustment in place.

Do not overtighten the blade brake cable. Overtightening the blade brake cable could prevent the blade brake from contacting the brake drum when you release the control bar. If the blade brake does not contact the brake drum, the blade will not stop rotating, which could cause serious personal injury.

- **Each time you adjust the brake cable, ensure that the brake stops the blade in 3 seconds or less.**
- **If the blade does not stop rotating in 3 seconds or less, bring the mower to an Authorized Service Dealer for inspection and repair.**

Blade Maintenance

Maintaining the Cutting Blade

Always mow with a sharp blade. A sharp blade cuts cleanly and without tearing or shredding the grass blades.

Complete the following procedure before inspecting, removing, or installing the blade:

1. Stop the engine and wait for all moving parts to stop.
2. Disconnect the wire from the spark plug (Figure 12).
3. Drain the petrol from the fuel tank; refer to Emptying the Fuel Tank and Cleaning the Fuel Filter.
4. Tip the mower onto its **right** side (Figure 35).

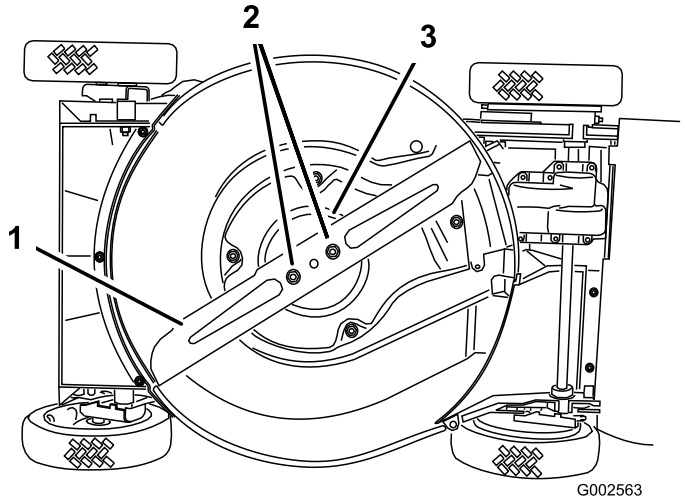


Figure 35

1. Blade
2. Blade nuts
3. Anti-scalp cup

Inspecting the Blade

Service Interval: Before each use or daily

Carefully examine the blade for sharpness and wear, especially where the flat and the curved parts meet (Figure 36A). Because sand and abrasive material can wear away the metal that connects the flat and curved parts of the blade, check the blade before using the mower. If you notice a slot or wear (Figure 36B and Figure 36C), replace the blade; refer to Removing the Blade.

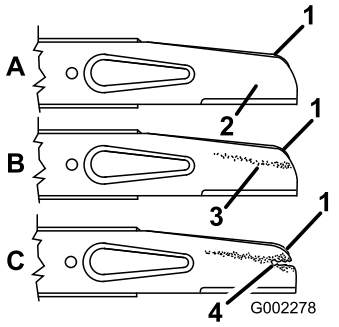


Figure 36

1. Sail
2. Flat part of the blade
3. Wear
4. Slot formed

Note: For the best performance, install a new blade before the cutting season begins. During the year, file down any small nicks to maintain the cutting edge.

A worn or damaged blade can break, and a piece of the blade could be thrown into the operator's or bystander's area, resulting in serious personal injury or death.

- **Inspect the blade periodically for wear or damage.**
- **Replace a worn or damaged blade.**

Removing the Blade

Grasp the end of the blade using a rag or a thickly padded glove. Remove the blade nuts, the anti-scalp cup, and the blade (Figure 35).

Sharpening the Blade

File the top side of the blade to maintain its original cutting angle (Figure 37A) and inner cutting edge radius (Figure 37B). The blade will remain balanced if you remove the same amount of material from both cutting edges.

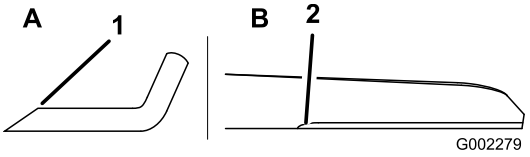


Figure 37

1. Sharpen at this angle only.
2. Maintain the original radius here.

Balancing the Blade

1. Check the balance of the blade by placing the center hole of the blade over a nail or screwdriver shank clamped horizontally in a vise (Figure 38).

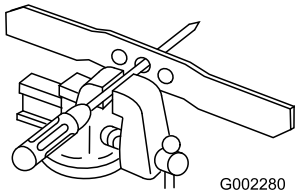


Figure 38

Note: You can also check the balance using a commercially manufactured blade balancer.

2. If either end of the blade rotates downward, file that end (not the cutting edge or the end near the cutting edge). The blade is properly balanced when neither end drops.

Installing the Blade

1. Install a sharp, balanced Hayter blade, the anti-scalp cup, and the blade nuts. The sail of the blade must point toward the top of the mower housing for proper installation. Torque the blade nuts to 23 to 27 ft-lb (32 to 37 N • m).
2. Return the mower to its operating position.
3. Connect the wire to the spark plug.

Cleaning

Cleaning under the Mower Housing

To ensure the best performance, keep the underside of the mower housing clean.

Washing Method

Service Interval: Before each use or daily

1. Position the mower on a flat concrete or asphalt surface near a garden hose.
2. Start the engine.
3. Hold the running garden hose at handle level and direct the water to flow on the ground just in front of the right rear tyre (Figure 39).

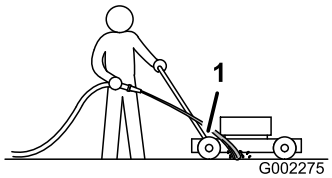


Figure 39

1. Right rear wheel

Note: The blade will draw in water and wash out clippings. Let the water run until you no longer see clippings being washed out from under the housing.

4. Stop the engine and wait for all moving parts to stop.
5. Turn off the garden hose.
6. Start the mower and let it run for a few minutes to dry out the moisture on the mower and its components.

Scraping Method

If washing does not remove all debris from under the mower, scrape it clean.

1. Disconnect the wire from the spark plug (Figure 12).
2. Drain the fuel from the fuel tank. Refer to Emptying the Fuel Tank and Cleaning the Fuel Filter.

Tipping the mower may cause the fuel to leak from the carburetor or the fuel tank. Petrol is extremely flammable, highly explosive, and, under certain conditions, can cause personal injury or property damage.

Avoid fuel spills by running the engine dry or by removing the petrol with a hand pump; never siphon.

3. Tip the mower onto its **right** side.
4. Remove the dirt and grass clippings with a hardwood scraper. Avoid burrs and sharp edges.
5. Return the mower to its operating position.
6. Fill the fuel tank.
7. Connect the wire to the spark plug.

Cleaning the Blade Brake Clutch Shield

Service Interval: Every 50 hours

Clean inside the blade brake clutch shield when you change the engine oil to ensure the best performance and to prevent parts from degrading or when you sharpen the blade because you need to remove the blade in order to remove the shield.

1. Stop the engine and wait for all moving parts to stop.
2. Disconnect the wire from the spark plug (Figure 12).
3. Drain the petrol from the fuel tank; refer to Emptying the Fuel Tank and Cleaning the Fuel Filter.
4. Tip the mower on its **right** side.

Tipping the mower may cause the fuel to leak from the carburetor or the fuel tank. Petrol is extremely flammable, highly explosive, and, under certain conditions, can cause personal injury or property damage.

Avoid fuel spills by emptying the fuel tank as directed; never siphon.

5. Remove 2 blade nuts, the anti-scalp cup, and the blade (Figure 35).
6. Remove the 4 screws that hold the shield in place (Figure 40)..

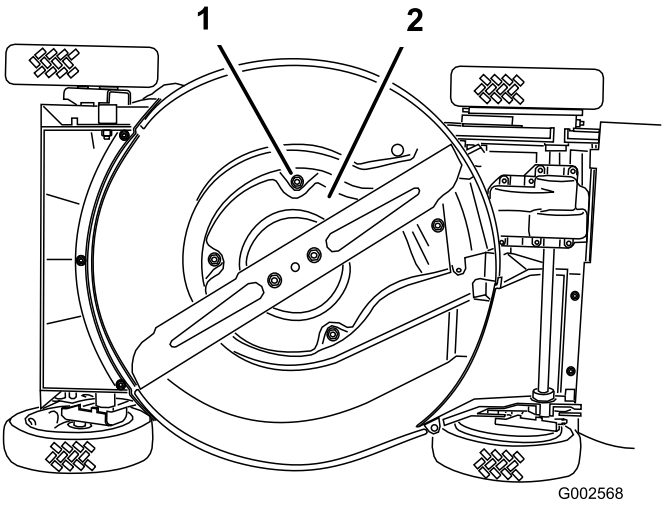


Figure 40

1. Screws (4)
2. Blade brake clutch shield

7. Remove the shield and brush or blow all the debris from under the shield and around the blade brake clutch system.
8. Install the shield using the 4 screws that you previously removed.
9. Install the blade, the anti-scalp cup, and the 2 blade nuts.
10. Return the mower to its operating position.
11. Connect the wire to the spark plug.

Storage

To prepare the mower for off-season storage, perform the recommended maintenance procedures. Refer to Maintenance.

Store the mower in a cool, clean, dry place. Cover the mower to keep it clean and protected.

Preparing the Fuel System

Petrol can vaporize if you store it over long periods of time and explode if it comes into contact with an open flame.

- **Do not store petrol over long periods of time.**
- **Do not store the mower with petrol in the fuel tank or the carburettor in an enclosure with an open flame. (For example, a furnace or a water heater pilot light.)**
- **Allow the engine to cool before storing it in any enclosure.**

Empty the fuel tank when mowing the last time before storing the mower.

1. Run the mower until the engine stops from running out of fuel.
2. Prime the engine and start it again.
3. Allow the engine to run until it stops. When you can no longer start the engine, it is sufficiently dry.

Preparing the Engine

1. While the engine is still warm, change the oil from the crankcase. Refer to Changing the Engine Oil.
2. Remove the spark plug.
3. Using an oil can, add about one tablespoon of oil to the crankcase through the spark plug hole.
4. Slowly rotate the engine several times, using the starter rope, to distribute the oil.
5. Install the spark plug but do not connect the wire to the spark plug.

General Information

1. Clean the mower housing. Refer to Cleaning under the Mower Housing.
2. Clean any dirt and chaff from the cylinder, cylinder head fins, and blower housing.
3. Remove grass clippings, dirt, and grime from the external parts of the engine, the shrouding, and the top of the mower housing.
4. Check the condition of the blade. Refer to Maintaining the Cutting Blade.
5. Clean the BBC shield; refer to Cleaning the Blade Brake Clutch Shield.
6. Service the air filter; refer to Servicing the Air Filter.
7. Lubricate the pivot arms; refer to Lubricating the Pivot Arms.
8. Tighten all nuts, bolts, and screws.
9. Touch up all rusted or chipped paint surfaces with paint available from an Authorized Service Dealer.

Removing the Lawn Mower from Storage

1. Check and tighten all fasteners.
2. Remove the spark plug and spin the engine rapidly using the starter to blow excess oil from the cylinder.
3. Clean the spark plug or replace it if it is cracked, broken, or if the electrodes are worn.
4. Install the spark plug and torque it to 17 ft-lb (23 N·m).
5. Perform any needed maintenance procedures; refer to Maintenance.
6. Fill the fuel in the fuel tank with fresh petrol.
7. Check the engine oil level.
8. Connect the wire to the spark plug.

Troubleshooting

Problem	Possible Cause	Corrective Action
Engine does not start	1. The fuel tank is empty or the fuel system contains stale fuel.	1. Drain and/or fill the fuel tank with fresh petrol. If the problem persists, contact an Authorized Service Dealer.
	2. The throttle lever is not in the Choke position.	2. Move the throttle lever to the Choke position.
	3. The wire is not connected to the spark plug.	3. Connect the wire to the spark plug.
	4. The spark plug is pitted, fouled, or the gap is incorrect.	4. Check the spark plug and adjust the gap if necessary. Replace the spark plug if it is pitted, fouled, or cracked.
Engine starts hard or loses power	1. The fuel tank contains stale fuel.	1. Drain and fill the fuel tank with fresh petrol.
	2. The fuel cap vent hole is plugged.	2. Clean the fuel cap vent hole or replace the fuel cap.
	3. The air filter element is dirty and is restricting the air flow.	3. Clean the air filter pre-cleaner and/or replace the paper air filter.
	4. The underside of the mower housing contains clippings and debris.	4. Clean under the mower housing.
	5. The spark plug is pitted, fouled, or the gap is incorrect.	5. Check the spark plug and adjust the gap if necessary. Replace the spark plug if it is pitted, fouled, or cracked.
	6. The engine oil level is low or the oil is dirty.	6. Check the engine oil. Change the oil if it is dirty or add oil if it is low
Engine runs rough	1. The wire is not connected to the spark plug.	1. Connect the wire to the spark plug.
	2. The spark plug is pitted, fouled, or the gap is incorrect.	2. Check the spark plug and adjust the gap if necessary. Replace the spark plug if it is pitted, fouled, or cracked.
	3. The throttle lever is not in the Fast position.	3. Move the throttle lever to the Fast position.
	4. The air filter element is dirty and is restricting the air flow.	4. Clean the air filter pre-cleaner and/or replace the paper air filter.
Lawn mower or engine vibrates excessively	1. The blade is bent or is out of balance.	1. Balance the blade. If the blade is bent, replace it.
	2. The blade mounting nuts are loose.	2. Tighten the blade mounting nuts.
	3. The underside of the mower housing contains clippings and debris.	3. Clean under the mower housing.
	4. The engine mounting bolts are loose.	4. Tighten the engine mounting bolts.
Uneven cutting pattern	1. All 4 wheels are not at the same height.	1. Place all 4 wheels at the same height.
	2. The blade is dull.	2. Sharpen and balance the blade.
	3. You are mowing in the same pattern repeatedly.	3. Change the mowing pattern.
	4. The underside of the mower housing contains clippings and debris.	4. Clean under the mower housing.
Mower does not self-propel	1. The self-propel drive cable is out of adjustment or is damaged.	1. Adjust the self-propel drive cable. Replace the cable if necessary.
	2. There is debris under the belt cover.	2. Clean the debris from under the belt cover.

Notes:

Notes:

LIMITED WARRANTY

Hayter Limited warrants to the original user/purchaser that this unit shall be free from defects in material and workmanship under normal use and service for a period of **one year** from the date of purchase. The manufacturers of the engine furnish their own warranty and services are provided through their authorised network (Refer to "Engine Warranty Statement"). To qualify for the full benefit of the warranty, the Warranty Registration Card must be returned to Hayter Limited within 14 days of purchase. If the selling dealer has not returned the Warranty Registration Card which is attached to the rear of the Owners Handbook please complete and return. Subject to the conditions and exclusions noted in this limited warranty, we shall at our option, repair or replace any warranted part during the applicable period. If you are in doubt or experience any difficulty, please consult a Hayter Authorised Service Dealer for clarification.

A 90 day warranty period applies to those items which are subject to normal wear and tear e.g. wheels, cutterbars, cables, grassbags and other consumable wearing parts.

All machines which are fitted with a **genuine** Hayter Friction Disc or Crankshaft Support Bearing as original equipment before use, are covered by a **Lifetime Warranty** against the engine crankshaft bending. **Note:** friction washers, Blade Brake Clutch (B.B.C.) units and other such devices are not applicable. Only machines fitted with a **genuine** Hayter friction disc or crankshaft support bearing, which are used in accordance with the recommended operating and maintenance procedures, are covered.

This warranty does not apply to any unit that has been tampered with, altered, misused, abused or used for hire, and will become invalid if non genuine Hayter parts are fitted. This warranty does not cover for minor mechanical adjustments unless they are due to defective material or workmanship. Consult the Owner's Handbook or a Hayter Authorised Service Dealer for assistance when making these adjustments.

To make a warranty claim, return the unit to a Hayter Authorised Service Dealer along with proof of purchase stating the machine serial number and date of purchase. Subject to the conditions and exclusions in this limited warranty, the authorised dealer will, at our option, repair or replace any warranted part within the duration of the warranty period.

This limited warranty gives you specific legal rights and is in addition to any statutory rights to which you may be entitled and your statutory rights are not affected by this warranty. If you need additional information concerning this written warranty, or assistance in obtaining services, please write to : **HAYTER LIMITED, Service Department, Spellbrook, Bishop's Stortford, Hertfordshire CM23 4BU**

UK ONLY: Details of your local **Hayter** authorised dealer are contained in Yellow Pages and the Hayter Website www.hayter.co.uk or contact:- Freephone 0800 616298.

CUSTOMER INFORMATION

Code	Serial No.

Date of Sale:- _____

Your Local Dealer:-

DEALER STAMP